Utah National Guard
Wind Generation Project – Camp Williams
Point of the Mountain, Utah
1998-2004

Camp W.G. Williams occupies 25,000 acres at Point of the Mountain, Utah. A main group of over 100 buildings overlook the Jordan Narrows where Utah Lake drains into the Great Salt Lake. The geography of the Jordan Narrows provides one of the better wind sites along the Wasatch Front. Anemometer data for Camp Williams from 1993 and 1997 show a consistent wind resource averaging 10-12 miles per hour. As base load, the Camp Williams electrical consumption averaged 5.9 million KWH for 2002 with a 750 KW maximum annual load. The Utah National Guard undertook a wind development project at Camp Williams to: comply with Presidential goals for energy reductions at federal facilities, reduce environmental impacts at the camp, serve as a example to other Guard units, and achieve some independence from grid-based energy systems for emergency purposes.

Unit #1 - Working with the Utah Energy Office's State Building Energy Efficiency Program (SBEEP) staff, the Utah National Guard submitted several grant applications to federal agencies for purchase of wind units. In 2000, a federal grant for $250,000 was approved from the National Guard Bureau (ARNG Readiness Center) to install a 225 KW unit at Camp Williams with $38,902 in matching funding provided by the Utah Office of Energy Services. The National Renewable Energy Laboratory (NREL) oversaw procurement for the unit with Denmark-based NEG Micon selected as supplier. The unit was installed and commissioned on January 20, 2000. Through December 31, 2002, the unit was operational 736 days with 165 days of downtime with no wind and 136 days of downtime due to equipment failure. In 2003 the unit's production was severely compromised by continued technical glitches with unit controllers and by poor service from California-based NEG Micon technicians, extending the original payback for Unit #1 beyond the estimated 9 years. A long-term solution to the Unit #1 downtime includes issuing a maintenance contract to the provider of Unit #2.

Unit #2 – In addition to the grant for 225 KW Unit #1, another grant for $752,000 was approved on September 24, 2003 through the National Guard Bureau and the Army Corp of Engineers for purchase of a 660 KW unit. In August 2003, SBEEP facilitated meetings between the Utah National Guard and the U.S. Department of Energy (DOE) to insure commitment of the federal

grant funds prior to federal fiscal year end and to solidify NREL's continued procurement assistance. NREL procurement for Unit #2 includes an expected delivery and installation date of Spring 2004. NREL has specified preference for a Vestas wind unit to avoid the reliability and performance issues of the ENG Micon units. NREL plans to use the data from both Camp Williams units for its Low Wind Speed Turbine Research Program. The Utah Energy Office has provided $50,000 toward this project from a federal FEMP grant.

Size of Project: 105 buildings served

Project Cost : Unit #1 = $288,902
Unit #2 = est. $802,000

Actual Energy Cost Savings: Unit #1 = $16,041 in wind production to December 31, 2002
Unit #2 = NA (system not yet installed)

2002 Energy Production: 224,312 KWH for Unit #1 (4% of the Camp Williams load)

Annual Environmental Benefits: NOX = 5,565 lbs., SOX = 5,962 lbs., and CO2 = 924 tons (est. Unit #1 benefits only)

Partners: Utah National Guard, National Guard Bureau, U.S. Department of Energy, National Renewable Energy Laboratory, Army Corp of Engineers, and the Utah Energy Office State Building Energy Efficiency Program (SBEEP)

Project Awards: NA

Utah National Guard Contact: Mr. Tim Parkinson 801-523-4449